CLAIMS

What is claimed is:

1. A method to control an image input and a recording-medium supply of an image forming apparatus, comprising:

periodically generating synchronized demands of the image input into an exposure unit, and periodically generating synchronized demand for the recording medium supply to a transfer unit;

inputting the image into the exposure unit according to the synchronized demand of the image input;

supplying the recording medium to the transfer unit according to the synchronized demand for the recording-medium supply;

forming an electrostatic latent image via the exposure unit in response to an input image signal;

changing the electrostatic latent image into a toner image via a developing unit; and

transferring the toner image to a recording medium to which the toner image is supplied via the transfer unit.

2. The method as claimed in claim 1, wherein when periodically generating synchronized demand of the image input and demand for the recording medium, a generation period of the synchronized demand of the image input and demand for the recording-medium supply is made coincident with a rotation period of the developing unit or a rotation period of the transfer unit.

3. The method as claimed in claim 1, wherein the operation of periodically generating synchronized demand of the image input and demand for the recording medium, further comprises:

determining whether a printing operation is required;

upon determining that the printing operation is required, determining whether an interrupt is generated; and

upon determining that the interrupt is generated, generating the synchronized demand of the image input and demand for the recording-medium supply.

4. The method as claimed in claim 1, wherein the operation of inputting the image into the exposure unit according to the synchronized demand of the input image, further comprises:

determining whether the image input is required;

upon determining that the image input is required, starting an initialized counter to count the number of line control signals output from the exposure unit;

determining whether there is a counter that starts counting the line control signals;

upon determining that there is the counter that starts counting the line control signals, counting the line control signals via the counter;

inputting the image or stopping the image input according to the number of counted line control signals; and

initializing the counter.

5. The method as claimed in claim 4, wherein the operation of inputting the image or stopping the image input according to the number of counted line control signals, further comprises:

determining whether the number of line control signals counted by the counter corresponds to a number of line control signals used to start the image input;

upon determining that the number of line control signals counted by the counter corresponds to the number of line control signals used to start the image input, starting the image input;

determining whether the number of line control signals counted by the counter corresponds to a number of line control signals used to stop the image input;

upon determining that the number of line control signals counted by the counter corresponds to the number of line control signals used to stop the image input, stopping the image input; and

initializing the counter via which the number of line control signals is counted.

6. The method as claimed in claim 4, wherein the operation of inputting the image or stopping the image input according to the number of counted line control signals, further comprises:

determining whether the number of counted line control signals corresponds to a number of line control signals used to start input of a first color image among first through fourth color images required to form a color image;

upon determining that the number of counted line control signals corresponds to the number of line control signals used to start input of the first color image, starting input of the first color image;

determining whether the number of counted line control signals corresponds to a number of line control signals used to stop input of the first color image;

upon determining that the number of counted line control signals corresponds to the number of line control signals used to stop input of the first color image, stopping input of the first color image;

determining whether the number of counted line control signals corresponds to a number of line control signals used to start input of a second color image;

upon determining that the number of counted line control signals corresponds to the number of line control signals used to start input of the second color image, stating input of the second color image;

determining whether the number of counted line control signals corresponds to a number of line control signals used to stop input of the second color image;

upon determining that the number of counted line control signals corresponds to the number of line control signals used to stop input of the second color image, stopping input of the second color image;

determining whether the number of counted line control signals corresponds to a number of line control signals used to start input of a third color image;

upon determining that the number of counted line control signals corresponds to the number of line control signals used to start input of the third color image, stating input of the third color image ;

determining whether the number of counted line control signals corresponds to a number of line control signals used to stop input of the third color image;

upon determining that the number of counted line control signals corresponds to the number of line control signals used to stop input of the third color image, stopping input of the third color image;

determining whether the number of counted line control signals corresponds to a number of line control signals used to start input of a fourth color image;

upon determining that the number of counted line control signals corresponds to the number of line control signals used to start input of the fourth color image, starting input of the fourth color image;

determining whether the number of counted line control signals corresponds to a number of line control signals used to stop input of the fourth color image;

upon determining that the number of counted line control signals corresponds to the number of line control signals used to stop input of the fourth color image, stopping input of the fourth color image; and

initializing the counter via which the number of line control signals is counted.

7. The method as claimed in claim 1, wherein the operation of inputting the image into the exposure unit according to the synchronized demand of the input image, further comprises:

determining whether the image input is required;

upon determining that the image input is required, determining whether a first counter among first through m counters is initialized, where m is a positive integer greater than 1;

upon determining that the first counter is initialized, starting the first counter;

upon determining that the first counter is not initialized, sequentially determining whether one or more of the counters are initialized and starting the initialized counters;

upon determining that the m-th counter is not initialized, marking an error that initialized counters are in short supply and terminating the above steps;

determining whether the first counter starts operating upon determining that the first counter is initialized;

upon determining that the first counter starts operating, counting the line control signals via the first counter;

inputting the image or stopping the image input in response to the counted line control signals and initializing the counted first counter;

upon determining that the first counter does not start operating, sequentially determining whether one or more counters start operating, and counting the line control signals by one or more of the counters; and

inputting the image or stopping the image input according to the number of line control signals counted by one or more of the counters and initializing one or more of the counters via which the number of line control signals are counted.

8. The method as claimed in claim 7, wherein the operation of inputting the image or stopping the image input in response to the counted line control signals and initializing the counted first counter, further comprises:

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to start the image input;

upon determining that the number of line control signals counted by the first counter corresponds to the number of line control signals used to start the image input, starting the image input;

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to stop the image input;

upon determining that the number of line control signals counted by the first counter corresponds to the number of line control signals used to stop the image input, stopping the image input; and

initializing the first counter which has counted the number of line control signals.

9. The method as claimed in claim 7, wherein the operation of inputting the image or stopping the image input according to the number of line control signals counted by one or more of the counters and initializing of one or more of the counters via which the number of line control signals are counted, further comprises:

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to start the image input;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to start the image input, starting the image input;

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to stop the image input;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to stop the image input, stopping the image input; and

initializing one or more counters which have counted the number of line control signals among the second through m-th counters.

10. The method as claimed in claim 7, wherein the operation of inputting the image or stopping the image input in response to the counted line control signals and initializing the counted first counter, further comprises:

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to start input of a first color image of four color images required to form a color image;

upon determining that the number of line control signals counted by the first counter corresponds to the number of line control signals used to start input of the first color image, starting input of the first color image;

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to stop input of the first color image;

upon determining that the number of line control signals counted by the first counter corresponds to the number of line control signals used to stop input of the first color image, stopping input of the first color image;

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to start input of a second color image;

upon determining that the number of line control signals counted by the first counter corresponds to the number of line control signals used to start input of the second color image, starting input of the second color image;

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to stop input of the second color image;

upon determining that the number of line control signals counted by the first counter corresponds to a number of line control signals used to stop input of the second color image, stopping input of the second color image;

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to start input of a third color image;

upon determining that the number of line control signals counted by the first counter corresponds to the number of line control signals used to start input of the third color image, starting input of the third color image;

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to stop input of the third color image;

upon determining that the number of line control signals counted by the first counter corresponds to a number of line control signals used to stop input of the third color image, stopping input of the third color image;

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to start input of a fourth color image;

upon determining that the number of line control signals counted by the first counter corresponds to the number of line control signals used to start input of a fourth color image, starting input of the fourth color image;

determining whether the number of line control signals counted by the first counter corresponds to a number of line control signals used to stop input of the fourth color image;

upon determining that the number of line control signals counted by the first counter corresponds to a number of line control signals used to stop input of the fourth color image, stopping input of the fourth color image; and

initializing the first counter which has counted the number of line control signals.

11. The method as claimed in claim 7, wherein the operation of inputting the image or stopping the image input according to the number of line control signals counted by one or more of the counters and initializing of one or more of the counters via which the number of line control signals are counted, further comprises:

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to a number of line control signals used to start input of first through fourth color images required to form a color image;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to start input of the first color image, starting input of the first color image;

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to a number of line control signals used to stop input of the first color image;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to stop input of the first color image, stopping input of the first color image;

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to a number of line control signals used to start input of the second color image;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to start input of the second color image, starting input of the second color image;

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to a number of line control signals used to stop input of the second color image;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to stop input of the second color image, stopping input of the second color image;

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to a number of line control signals used to start input of the third color image;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to start input of the third color image, starting input of the third color image;

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to a number of line control signals used to stop input of the third color image;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to stop input of the third color image, stopping input of the third color image;

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to a number of line control signals used to start input of the fourth color image;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to start input of the fourth color image, starting input of the fourth color image;

determining whether the number of line control signals counted by one or more counters among the second through m-th counters corresponds to a number of line control signals used to stop input of the fourth color image;

upon determining that the number of line control signals counted by one or more counters among the second through m-th counters corresponds to the number of line control signals used to stop input of the fourth color image, stopping input of the fourth color image; and

initializing one or more counters which have counted the number of line control signals among the second through m-th counters.

12. The method as claimed in claim 1, wherein the operation of inputting the image into the exposure unit according to the synchronized demand of the image input, further comprises:

determining whether recording-medium supply is required;

upon determining that recording-medium supply is required, starting at least one initialized timer to measure a time required to control movement of a recording medium;

determining whether there at least one timer that starts measuring of the time;

upon determining that there is at least one timer that starts measuring of the time, measuring the time by the timer;

supplying the recording medium to the transfer unit or adjusting movement of the recording medium according to the measured time; and

initializing the timer via which the time is measured.

13. The method as claimed in claim 12, wherein the operation of supplying the recoding medium to the transfer unit or adjusting movement of the recording medium according to the measured time, further comprises:

determining whether a time measured by the timer corresponds to a time needed to supply the recording medium to the transfer unit;

upon determining that the time measured by the timer corresponds to the time needed to supply the recording medium, the recording medium is supplied to the transfer unit;

determining whether the recording medium is exhausted from the transfer unit; and

upon determining that the recording medium is exhausted from the transfer unit, initializing the timer.

14. The method as claimed in claim 13, wherein upon determining whether the recording medium is exhausted from the transfer unit, it is determined whether the recording medium is exhausted from an image forming apparatus.

15. The method as claimed in claim 13, wherein the operation of supplying the recoding medium to the transfer unit or adjusting movement of the recording medium according to the measured time, further comprises:

upon determining that the time measured by the timer corresponds to the time needed to supply the recording medium;

determining whether the time measured by the timer corresponds to a time needed to adjust movement of the recording medium;

upon determining that the time measured by the timer corresponds to the time to adjust movement of the recording medium, adjusting movement of the recording medium; and

initializing the timer subsequent to a determination that the recording medium has been exhausted.

16. The method as claimed in claim 1, wherein the operation of inputting the image into the exposure unit according to the synchronized demand of the image input, further comprises:

determining whether the recording-medium supply is required;

upon determining that the recording-medium supply is required, determining whether a first timer of n timers is initialized, where n is a positive integer greater than 1;

upon determining that the first timer is initialized, starting the first timer;

upon determining that the first timer is not initialized, sequentially determining whether one or more of the n timers is initialized, and starting the initialized timers;

upon determining that none of the n timers are initialized, marking an error that the initialized timers are in short supply, and terminating the above steps;

upon determining that a timer is initialized, determining whether the first timer starts operating;

upon determining that the first timer starts operating, measuring a time by the first timer;

supplying the recording medium to the transfer unit or adjusting movement of the recording medium according to the measured time, and initializing the starting first timer;

upon determining that the first timer does not start or after sequentially determining at least one of the n timers start operating, measuring the time by starting one or more of the timers; and

supplying the recording medium to the transfer unit or adjusting a movement of the recording medium according to the time measured by one or more of the timers, and initializing one or more of the timers which have measured the time.

17. The method as claimed in claim 16, wherein upon supplying the recording medium to the transfer unit or adjusting movement of the recording medium according to the measured time, and initializing the starting first timer, further comprises:

determining whether the time measured by the timer corresponds to a time needed to adjust movement of the recording medium;

upon determining that the time measured by the timer corresponds to the time to adjust movement of the recording medium, adjusting movement of the recording medium; and

initializing the timer subsequent to a determination that the recording medium has been exhausted.

16. The method as claimed in claim 1, wherein the operation of inputting the image into the exposure unit according to the synchronized demand of the image input, further comprises:

determining whether the recording-medium supply is required;

upon determining that the recording-medium supply is required, determining whether a first timer of n timers is initialized, where n is a positive integer greater than 1 ;

upon determining that the first timer is initialized, starting the first timer;

upon determining that the first timer is not initialized, sequentially determining whether one or more of the n timers is initialized, and starting the initialized timers;

upon determining that none of the n timers are initialized, marking an error that the initialized timers are in short supply, and terminating the above steps;

upon determining that a timer is initialized, determining whether the first timer starts operating;

upon determining that the first timer starts operating, measuring a time by the first timer;

supplying the recording medium to the transfer unit or adjusting movement of the recording medium according to the measured time, and initializing the starting first timer;

upon determining that the first timer does not start or after sequentially determining at least one of the n timers start operating, measuring the time by starting one or more of the timers; and

supplying the recording medium to the transfer unit or adjusting a movement of the recording medium according to the time measured by one or more of the timers, and initializing one or more of the timers which have measured the time.

17. The method as claimed in claim 16, wherein upon supplying the recording medium to the transfer unit or adjusting movement of the recording medium according to the measured time, and initializing the starting first timer, further comprises:

determining whether the time measured by the first timer corresponds to a time needed to supply the recording medium to the transfer unit;

upon determining that the time measured by the fist timer corresponds to the time needed to supply the recording medium to the transfer unit, supplying the recording medium to the transfer unit;

determining whether the recording medium is exhausted from the transfer unit; and

upon determining that the recording medium is exhausted from the transfer unit, initializing the first timer.

18. The method as claimed in claim 17, wherein upon supplying the recording medium to the transfer unit or adjusting movement of the recording medium according to the measured time, further comprises:

determining whether the time measured by the first timer corresponds to a time needed to adjust movement of the recording medium;

upon determining that the time measured by the first timer corresponds to the time needed to adjust movement of the recording medium, adjusting movement of the recording medium;

determining whether the recording medium is exhausted from the transfer unit; and

upon determining that the recording medium is exhausted from the transfer unit, initializing the first timer.

19. The method as claimed in claim 16, wherein the supplying the recording medium to the transfer unit or adjusting a movement of the recording medium according to the time measured by one or more of the timers, further comprises:

determining whether the time measured by one or more of the n timers corresponds to a time needed to supply the recording medium to the transfer unit;

upon determining that the time measured by one or more of the n timers corresponds to the time needed to supply the recording medium to the transfer unit, supplying the recording medium to the transfer unit;

determining whether the recording medium is exhausted from the transfer unit; and

upon determining that the recording medium is exhausted from the transfer unit, initializing one or more of the n timers which have measured the time.

20. The method as claimed in claim 19, wherein supplying the recording medium to the transfer unit or adjusting a movement of the recording medium according to the time measured by one or more of the timers, further comprises:

determining whether the time measured by one or more of the n timers corresponds to a time needed to adjust movement of the recording medium; and

upon determining that the time measured by one or more of the n timers corresponds to the needed to adjust movement of the recording medium, adjusting movement of the recording medium.

21. An apparatus to control an image input and a recording-medium supply of an image forming apparatus, comprising:

a synchronization signal generating unit, to periodically generate synchronization demand signal to input the image into the exposure unit and to supply the recording medium to the transfer unit, and to output generated synchronization demand signal;

an image input processing unit to input the image into the exposure unit in response to the synchronization demand signal of the image input;

a recording-medium supply processing unit to supply the recording medium to the transfer unit in response to the synchronization demand signal for the recording-medium supply.

an exposure unit to form an electrostatic latent image in response to an input image signal;

a developing unit to change the electrostatic latent image into a toner image; and

a transfer unit to transfer the toner image on a recording medium to which the toner image is supplied.

22. The apparatus as claimed in claim 21, wherein the synchronization signal generating unit further comprises:

a printing requirement sensing unit which senses whether a printing operation is required, and outputs the result of sensing;

an interrupt generating unit which periodically generates an interrupt in response to the result of sensing and outputs the generated interrupt;

an image synchronization signal generating unit which generates a synchronization demand signal of the image input in response to the generated interrupt and outputs the generated synchronization demand signal; and

a recording-medium synchronization signal generating unit which generates a synchronization demand signal of the recording-medium supply in response to the generated interrupt and outputs the generated synchronization demand signal.

23. The apparatus as claimed in claim 22, wherein the interrupt generating unit generates an interrupt with a rotation period of the developing unit or a rotation period of the transfer unit.

24. The apparatus as claimed in claim 21, wherein the image input processing unit further comprises:

first through m-th where m is a positive integer greater than 1, counters which count the number of line control signals output from the exposure unit and output the result of counting;

an image-input requirement sensing unit which senses whether image input is required, and outputs the result of sensing;

an initialization counter sensing unit which senses whether there is an initialized counter among the first through m-th counters in response to the result of sensing, and transmits the synchronization demand signal of the image input into the initialized counter;

a counting controlling unit which senses whether the number of line control signals counted by the first through m-th counters corresponds to a number of line control signals used to start image input, outputs the first result of sensing, senses whether the number of counted line control signals corresponds to the number of line control signals used to stop image input, outputs the second result of sensing, and initializes the counter which has counted the number of line control signals in response to the second result of sensing;

an image input adjustment signal generating unit which generates an image-input start signal in response to the first result of sensing, generates an image input stop signal in response to the second result of sensing, and outputs the generated image-input start signal and the image input stop signal; and

an image input unit which starts and stops input of the image into the exposure unit in response to the transmitted image-input start signal and the transmitted image-input stop signal, respectively.

25. The apparatus as claimed in claim 24, wherein m is more than a number obtained when one-time interrupt is generated by adding 1 to the number of interrupts

generated from a time when one counter among the m counters starts counting a time when the counter is initialized.

26. The apparatus as claimed in claim 21, wherein the recording-medium supply processing unit further comprises:

first through n-th where n is a positive integer greater than 1 timers which measure a time;

a recoding-medium supply requirement sensing unit which senses whether recording-medium supply is required, and outputs the result of sensing;

an initialization timer sensing unit which senses whether there is an initialized timer among the first through n-th counters in response to the result of sensing, and transmits the synchronization demand signal for recording-medium supply to the initialized timer;

a timing controlling unit which senses whether the time measured by the first through n-th timers corresponds to a timer needed to supply a recording medium to a transfer unit, outputs the third result of sensing, senses whether the time measured by the fist through n-th timers corresponds to a time needed to adjust movement of the recording medium, and outputs the fourth result of sensing;

a recording-medium supply signal generating unit which generates a recording-medium supply signal in response to the third result of sensing, and outputs the generated recording-medium supply signal;

a recording-medium supplying unit which supplies the recording medium to the transfer unit in response to the generated recording-medium supply signal; and

a recording-medium exhaust sensing unit which senses whether the recording medium is exhausted from the transfer unit, and outputs the result of exhaust sensing;

wherein the timer which has measured the time, is initialized in response to the result of exhaust sensing.

27. The apparatus as claimed in claim 26, wherein the recording-medium supply processing unit further comprises:

a recording-medium adjustment signal generating unit which generates recording-medium movement adjustment signal in response to the fourth result sensed by the timing controlling unit and outputs the generated recoding-medium movement adjustment signal; and

a recording-medium movement adjusting unit which adjusts movement of the recording medium to the transfer unit in response to the transmitted recording-medium adjustment signal.

28. The apparatus as claimed in claim 26, wherein n is more than a number obtained when one-time interrupt is generated by adding 1 to the number of interrupts generated from a time when one timer among the first through n-th timers starts measuring of a time to a time when the timer is initialized.

29. The method as claimed in claim 1, further comprising:

determining whether an interrupt is generated upon determination that a printing operation is required; and

generating the synchronized demand of the image input and demand for the recording-medium supply upon determination that the interrupt is generated.

30. The method as claimed in claim 1, further comprising:

starting an initialized counter to count the number of line control signals output from the exposure unit upon determination that the input image is required, wherein counting of the line control signals is started upon finding a counter that has started counting the line control signals;

inputting an image or stopping an image input according to the number of counted line control signals; and

initializing the counter.

31. The method as claimed in claim 4, further comprising:

starting the image input upon determination that the number of line control signals counted via the counter corresponds to a number of line control signals used to start the image input;

stopping an image input upon determination that the number of line control signals counted via the counter corresponds to a number of line control signals used to stop the image input; and

initializing the counter via which the number of line control signals are counted.

32. The method as claimed in claim 30, further comprising:

starting input of a first color image upon determination that the number of counted line control signals corresponds to the number of line control signals used to start input of the first color image;

stopping input of the first color image upon determination that the number of counted line control signals corresponds to the number of line control signals used to stop input of the first color image;

stating input of a second color image upon determination that the number of the counted line control signals corresponds to the number of line control signals used to start input of the second color image;

stopping input of the second color image upon determination that the number of counted line control signals corresponds to the number of line control signals used to stop input of the second color image;

stating input of a third color image upon determination that the number of counted line control signals corresponds to the number of line control signals used to start input of a third color image;

stopping input of the third color image upon determination that the number of counted line control signals corresponds to the number of line control signals used to stop input of the third color image;

starting input of a fourth color image upon determination that the number of counted line control signals corresponds to the number of line control signals used to start input of a fourth color image;

stopping input of the fourth color image upon determination that the number of counted line control signals corresponds to the number of line control signals used to stop input of the fourth color image; and

initializing the counter after input of the images is complete.

33. The method as claimed in claim 1, further comprising:

determining whether at least one of m counters are initialized upon determination that an image input is required, where m is a positive integer greater than 1;

starting at least one of the initialized counters;

determining if none of the counters are initialized, marking an error that initialized counters are in short supply if none of the counters are initialized and terminating the determination of whether the at least one m counter is initialized;

counting the line control signals via the initialized counter that has started operating; and

inputting an image or stopping an image input in response to the counted line control signals and initializing the counter that performed the counting,

34. The method as claimed in claim 33, further comprising:

starting an image input upon determination that the number of counted line control signals via at least one counter corresponds to a number of line control signals used to start image input;

stopping an image input upon determination that the number of counted line control signals via at least one counter corresponds to a number of line control signals used to stop image input; and

initializing the one or more counters which have counted the number of line control signals.

35. The method as claimed in claim 1, further comprising:

starting at least one initialized timer to measure a time required to control movement of a recording medium after determining that the recording-medium supply is required;

measuring a time by the timer;

supplying the recording medium to the transfer unit or adjusting movement of the recording medium according to the measured time; and

initializing the timer via which the time is measured.

36. The method as claimed in claim 35, wherein:

the recording medium is supplied to the transfer unit upon determination that the measured time corresponds to a time needed to supply the recording medium to the transfer unit; and

the timer is initialized subsequent to a determination that the recording medium is exhausted from the transfer unit.

37. The method as claimed in claim 12, further comprising:

adjusting movement of the recording medium upon determination that the measured time corresponds to a time needed to adjust the movement of the recording medium; and

the timer is initialized subsequent to a determination that the recording medium is exhausted from the transfer unit for a predetermined amount of time.

38. A method to control an image input and a recording medium supply of an image forming apparatus, comprising:

periodically generating a timer interrupt when a printing operation is requested;

synchronizing a demand of an image input and a demand for a recording supply via the generated timer interrupt;

inputting the image according to the synchronized demand of the image input; and

supplying the recording medium according to the synchronized demand for the recording supply.

39. The method as claimed in claim 38, wherein the synchronized demand of the image input and the demand for the recording supply are simultaneously generated whenever the interrupt is generated.

40. The method as claimed in claim 38, wherein the synchronized demand of the image input and the demand for the recording medium supply are generated at the same time.

41. The method as claimed in claim 38, wherein the synchronized demand of the image input and the demand for the recording medium supply are arbitrarily set.

42. The method as claimed in claim 1, wherein the synchronized demand of the image input and the demand for the recording medium supply are generated at the same time.

43. The method as claimed in claim 1, wherein the synchronized demand of the image input and the demand for the recording medium supply are arbitrarily set.

44. The method as claimed in claim 4, wherein the line control signals output from the exposure unit are line synchronizing signals or horizontal synchronizing signals.

45. The method as claimed in claim 4, wherein the counting of the line control signals starts when the line control signals are generated.

46. The method as claimed in claim 5, wherein the number of line control signals used to start and stop the image input is preset before the printing operation is performed.

47. The method as claimed in claim 6, wherein the operation of starting and stopping of the color image input is repeated as many times as a number of colors of the color image.

48. The method as claimed in claim 6, wherein the number of line control signals used to start and stop the image input is preset before the printing operation is performed.

49. The method as claimed in claim 10, wherein the number of line control signals used to start and stop input of color images required to form a color image is preset before the printing operation is performed.

50. The method as claimed in claim 11, wherein the number of line control signals used to start and stop input of color images required to form a color image is preset before the printing operation is performed.

51. The method as claimed in claim 13, wherein the timer is initialized subsequent to a determination that the recording medium is exhausted from the transfer unit for a predetermined amount of time.

52. The method as claimed in claim 13, wherein the time needed to supply the recording medium to the transfer unit is predetermined.

53. The method as claimed in claim 20, wherein one or more of the n timers which have measured the time are initialized upon determination that the recording medium is exhausted from the transfer unit.

54. The apparatus as claimed in claim 22, wherein the printing requirement sensing unit receives a printing required signal through and input terminal and outputs the result of the sensing to the interrupt generating unit.

55. The apparatus as claimed in claim 22, wherein the interrupt generating unit generates an interrupt arbitrarily for each predetermined amount of time.

56. An apparatus to control an image input and a recording medium supply of an image forming apparatus, comprising:

a timer interrupt unit to periodically generate an interrupt when a printing operation is requested;

a synchronization unit to synchronize a demand of an image input and a demand for a recording supply via the generated timer interrupt;

an image input unit to input the image according to synchronized demand of the image input; and

a supply unit to supply a recording medium according to the synchronized demand for the input and the demand for the recording supply.